Result Page

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[0001] The instant invention concerns a method for treating textile products by household devices.

[0002] To the laundry treatment process belongs such as washing, a drying, brackets, lacks and smooth ones. Drying and in particular the washing in addition, the other treatment processes are procedures, which on the textile products individual tuned which can be treated to become to have, in order to obtain optimum results. A wrong type of treatment, which becomes set by treatment programs, can even damage or make the treated textile products useless. The optimum programme for treating a textile product depends in particular on the various material properties of its tissue, as for example on the kind of fabrics (cotton, wool..), the color or the maximum beneficial treatment temperature. However textile products become single washed and/or dried, but so called laundry posts usually not summarized, which become common treated in a wash and/or a drying procedure. Since this procedure for all textile products of the post is same, it must be paid attention with the assembly of a laundry post to the fact that a program selection optimum for all textile products can be met. In particular regarding the colors different laundry articles also mutual can affect each other. So very strong dyed laundry articles can deliver something color with the washing to the wash liquor, which become received of the other laundry articles and can with white laundry articles to discolorations lead in particular. Thus also the differences bottom them must become considered, in order to obtain an optimum care result beside the optimum accordance of the care program on the single textile products which can be treated.

[0003] Apart from an optimum textile care one is endeavored in addition, to use from ecological and economic aspects if possible little energy, water or detergent. For this purpose the water or detergent addition can become the corresponding amount of the laundry dosed which can be treated with almost all present wash or drying equipment.

[0004] Optimum treating of textile products requires thus extensive knowledge over the own work of the textile products and their optimum care, over the operation of the corresponding apparatuses as well as over the detergents which can be used. Due to the large technical advance on all these fields will it for a layman, that itself with the textile care in the household busy, ever more difficult, to accomplish the treatment procedure of textile products optimum.

[0005] The simplification of these processes used since longer maintenance flag, which as small, become embroidered or printed pieces of fabric at textile products mounted are inconspicuous and indications over the textile product as well as over its optimum care contained. These maintenance flags must be read so far by the user, the then corresponding indications over the various textile products the optimum programme which can be treated for the washing and/or drying and/or. the optimum adjustments at the treatment equipment (temperature, rolling speed, press pressure etc.) set has. Thus it was possible, indications over the characteristics of the textile product and some care recommendations regarding obtained; the assembly of the laundry post and the proper selection of the care program and/or. the care parameter were left however still to the user.

[0006] From the DE 41 42 463 A1 household equipment is known to the automatic treatment of laundry, in which a sensor is and which textile product a machine-readable mark which can be treated carries, whereby the sensor supplies the read signals of a logic, which steers the household equipment. In this document the sensor is formed as optoelectronic or acoustoelectronic reader, whereby the machine-readable mark is in form of a bar code at the product which can be treated mounted in particular. With this type of the information transfer from the machine-readable mark to the household equipment either the mark must be led past to sensor of the household equipment or be become a sensor, which is connected over a flexible cable with the household equipment, over the mark guided. Beside the operating unfriendlyness of such a method to the information transfer optical or acoustic methods exhibit an high susceptibility to interference and are not appropriate results useful over a longer period to be supplied, since for example optical marks easy wear themselves out.

[0007] The instant invention is therefore the basis the object to create a method for treating textile products by household devices with which the characteristics of the products which can be treated safe detected can to become to be able and the treatment procedure optimum on the textile products tuned become.

[0008] This object becomes 1 dissolved by the features of the claim.

[0009] A method becomes according to invention treating textile products by household devices proposed, whereby the textile products are provided with at least an electronic circuit with at least a machine-readable transponder, which contains informations over the textile product, and whereby the household devices with at least a device are to the read of the informations over the textile product equipped. The method exhibits further the subsequent steps:

Reading of the informations from that at least a transponder of the textile products by means of that, which can be treated, at least selection device into household equipment,
Determination of the other treatment of the textile products the corresponding read in informations by the household equipment.

[0010] In this way it is possible to co-ordinate the informations on the textile products which can be treated safer to the household equipment to transmitted and the treatment procedure optimum with it. Since transponders send the information on their part, the user must worry not over reading of the informations; these become automatic the household equipment transmitted. This can then on his part the treatment of the textile products specify and if necessary optimum dosing quantities of water and the if necessary various wash and preservative agents stop or by an appropriate display device recommendations for the manual adjustment these and other parameters give.

[0011] If the composition of the laundry post permits an optimum treatment, the household equipment selects the proper parameters of the treatment, D. h. the optimum care program. So can for example the optimal temperature, the wash or drying duration, which become appropriate dosage of water and of various detergents as well as rolling speed or press pressure (at lacks or handle presses) selected. Besides also limitations can become with the care considered, if for example a piece of textile may not become thrown or particularly carefully treated must become.

[0012] A program selection made naturally bottom consideration of the characteristics of the most sensitive laundry article in the laundry post. If however is not possible in accordance with the selected informations over the textile products which can be treated an optimum treatment for a plurality of products of this post, made favourable-proves a warning to the user, which can change then the composition of the laundry post, if necessary after defaults of the household equipment. Like that it is possible to indicate and to prevent thus a treatment a post composition adverse due to the selected treatment or an under or a over loading, either to an unsatisfactory result would lead or unnecessary much energy, water or detergent would use. In this way also discolouring can become or inlets of laundry articles prevented. If is not desired by the user an optimum treatment, for example the treatment continued due to a control technical default after the warning or aborted can become.

[0013] Favourable way sends the transponder in it the stored informations by means of

electromagnetic waves to the device to the read of the informations of the household equipment. Thus a particularly troublefree and safe information transfer becomes ensured, whereby the transponder can become then also complete totally enclosed and thus particularly resistant formed. Since the treatment spaces usually are in wash or drying equipment from metal and thus electromagnetic against the outside space shielded, it is additional possible in this way to select the exclusive transponders of the textile products located in the treatment space which as single washed or dried to become to be supposed.

[0014] Furthermore it is also possible that the transponder sends in it the stored informations in the form of light signals or from acoustic signals to the device to the read of the informations of the household equipment. With these two transmittal modes the signals can become very easy shielded and become also their range easy adapted. Thereby prevented can become that interferences with signals from other apparatuses lead to disturbances with the information transfer from the transponder.

[0015] The transponder contains the Produktart, the Gewebeart, informations over the coloring (tint, chemical components of the color, colouring process), the minimum recommended or maximum beneficial treatment temperature, the weight, the water absorption ability or also treatment restrictions as information over the textile product for example. General one should contain the transponder those informations, which are for the intended treatment of importance. So the household equipment can examine the composition of laundry posts to for unsatisfactory care results which can be expected and otherwise the optimum wash or care program and/or. optimum care parameters stop.

[0016] It is also possible to provide the textile product which can be treated with several transponders from which in each case only contains for a treatment procedure the relevant informations. Only the informations are then read in by the corresponding apparatus, which are for of their exerted procedure of importance. An original only textile product equipped for a type of treatment with a transponder can so for another if necessary. automatic treatment to be re-tooled.

[0017] Over textile product contains the invention relates to for the execution of the invention process in addition household equipment to the washing and/or drying of textile products, which are provided with at least a machine-readable transponder, of the informations, whereby the household equipment with at least a device is equipped to the read of the informations over the textile product.

[0018] Likewise the invention refers to a transponder with at least an electronic circuit to the identification of textile products, which contains informations over the textile product, which are relevant for the treatment of the textile product. In particular this can be for example the Gewebeart, informations over the coloring, the minimum recommended or maximum beneficial treatment temperature, the weight, the water absorption ability or treatment restrictions. The informations in the transponder can do itself also direct on the wash or drying program relate, for example by concrete defaults of the programme flow. So can the single programme steps, whose durations and sequence become already predetermined by the transponder.

[0019] Other details, features and advantages of the instant invention result from the subsequent description of a preferable embodiment for the execution of the invention process bottom reference on the designs. In them show

Fig. 1 a textile product which can be treated,
Fig. 2 a transponder to the identification of the textile product in accordance with Fig. 1 and
Fig. 3 household equipment to the washing of the textile product in accordance with Fig. 1.

[0020] In Fig. 1 is a textile product 1 shown which can be washed, which should be in this case a white shirt from cotton. This shirt 1 should be provided condition in accordance with with a transponder 2, as it in Fig. 2 shown is. The transponder 2 is equipped with an electronic circuit, which transfers informations by means of electromagnetic waves over the textile product 1, if it receives for his part certain electromagnetic inquiry signals. In the transponder the 2 over the textile product 1 stored informations can be for example the subsequent:

Type of the textile product: Shirt
Color: white, bleached
Tissue: Cotton
Improving: none
Care restrictions: none
Water absorption ability: 1 liter

[0021] In Fig. 3 is finally household equipment 3 to the washing of the textile product 1 shown. The washing machine 3 is internal equipped with a controller (not shown) and exhibits over the filling opening 4 a device 5 to the read of the informations over the textile products 1, with a likewise not represented hula-hoop aerial connected arranged in the window frame of the filling opening 4 is.

[0022] The washing now the shirt 1 becomes by the filling opening 4 into the washing machine 3 introduced, whereby it is led past the selection device 5. The selection device sends 5 certain electromagnetic inquiry signals, which arrange the transponder 2 in the shirt 1 to it, for his part in it the stored informations to transmitted. These signals of the transponder 2 are received from the selection device 5 and passed on to the controller of the washing machine 3. If several textile products are to be washed 1, this procedure becomes corresponding often repeated. The control checked first with several textile products which can be washed 1 whether for all textile products 1 the selection of an optimum wash program possible is. Case this not possible is, a made acoustic and/or optical warning. If however an optimum treatment for all laundry articles is 1 possible, the control of the washing machine 3 selects the optimum programme and starts the corresponding treatment procedure.

[0023] Thus a method becomes the washing and/or drying textile products by household devices provided by the solution according to invention, set with which the wash or drying program optimum for the textile products which can be treated becomes independent selected and, whereby operating errors become excluded. Additional one takes place an examination of the composition of the laundry post, in order to avoid adverse sequences at adverse composition.